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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,630	05/02/2005	Masayuki Tsumura	SONYJP 33-1028	6327

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LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

EXAMINER	
GUARINO, RAHEL	

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
12/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,630	TSUMURA, MASAYUKI	
	Examiner	Art Unit	
	Rahel Guarino	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. This office action is in response to communication filed on 8/1/2008.

2. Applicant's arguments, see remarks, filed 8/1/2008 with respect to the rejection(s) of claim(s) 1-7 under 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of Ippei et al. (JP2000-138722) and in further view Yamazaki US 5,999,027

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,4,5,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohishi US, 6,940,923 in view of Ippei et al. (JP2000-138722)

Re claim 1, Ohishi discloses a receiving apparatus (fig.14, (broadcast receiver)), comprising: demodulation means (fig. 1 (20, demodulation device), col. 2 lines 37-38) for demodulating a reception signal to a signal on a real axis and a signal on an imaginary axis (col.4 lines 35-50; the digitally converted signal by the digital signal generator (see fig.1) is mapped into I and Q axes (real and imaginary axes, see fig, 2-4), fig.2 shows High C/N ratio and no phase noise, fig.3 shows High C/N ratio and phase noise included and fig. 4 shows Low C/N ratio and phase noise included); C/n ratio calculation means for calculating a c/n ratio with the amplitudes in an amplitude direction of signal points of the demodulation signal demodulated by said demodulation means (col. 2 lines 1-4); and a C/N ratio with the amplitudes in a phase direction of the signal points of the demodulation signal demodulated by said demodulation means (col. 5 lines 17-21, fig.3 shows with the high C/N ratio and phase noise included, the amplitude varies with the phase direction); and indication means for indicating the C/N ratios calculated by said C/N ratio calculation means and the phase noise detected by,said phase noise detection means (col. 10 lines 41-65); does not disclose phase noise detection means for detecting phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction.

However, Ippei teaches phase noise detection (phase error detection (5)) means detection means (para#67 lines 5-67) for detecting phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction (para#68).

Therefore, taking the combined teaching of Ohishi and Ippei as a whole would have been rendered obvious to one skilled in the art to modify Ohishi to detect phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction for the benefit of automatically adjusting the loop gain according to the phase noise quantity (para#69).

Re claim 4, the modified invention as claimed in claim 1, wherein said indication means indicates the phase noise calculated on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction as a numeric value (col. 9 lines 44-65," Ohishi'").

Re claim 5, Ohishi discloses a C/N ratio indication method for a receiving apparatus(fig. 1 (20)), the method comprising the steps of: demodulating a reception signal to a signal on a real axis and a signal on an imaginary axis (col.4 lines 35-50; the digitally converted signal by the digital signal generator (see fig.1) is mapped into I and Q axes (real and imaginary axes, see fig, 2-4), fig.2 shows High C/N ratio and no phase noise, fig.3 shows High C/N ratio and phase noise included and fig. 4 shows Low C/N ratio and phase noise included); calculating a C/N ratio with the amplitudes in an amplitude direction of signal points of the demodulation signal demodulated by said demodulation means (col. 2 lines 1-4); and a C/N ratio with the amplitudes in a phase direction of the signal points of the demodulation signal demodulated by said demodulation means (col. 5 lines 17-21, fig.3 shows with the high C/N ratio and phase noise included, the amplitude varies with the phase direction); and indication means for

indicating the C/N ratios calculated by said C/N ratio calculation means and the phase noise detected by, said phase noise detection means (col. 10 lines 41-65); does not disclose phase noise detection means for detecting phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction.

However, Ippei teaches phase noise detection (phase error detection (5)) means detection means (para#67 lines 5-67) for detecting phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction (para#68).

Therefore, taking the combined teaching of Ohishi and Ippei as a whole would have been rendered obvious to one skilled in the art to modify Ohishi to detect phase noise on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction for the benefit of automatically adjusting the loop gain according to the phase noise quantity (para#69).

Re claim 7, the modified invention as claimed in claim 5, wherein said indication means indicates the phase noise calculated on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction as a numeric value (col. 9 lines 44-65).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohishi US, 6,940,923 in view of Ippei et al. (JP2000-138722) in further view Yamazaki US 5,999,027

Re claim 2, the modified invention as in claim 1 does not disclose wherein said demodulation means has phase compensation means for compensating a phase with an external compensation signal, and wherein when the phase noise takes place, said phase compensation means compensates the phase.

However, Yamazaki teaches wherein said demodulation means has phase compensation means (fig.10) for compensating a phase with an external compensation signal (phase difference with internal and external clock signal, col. 2 lines 25-35), and wherein when the phase noise takes place, said phase compensation means compensates the phase (col. 13 lines 26-31).

Therefore, taking the combined teaching of Yamazaki, Ohishi and Ippei as a whole would have been rendered obvious to one skilled in the art to modify Ohishi and Ippei to compensate a phase with an external compensation signal for the benefit of synchronizing with the internal clock signal.

6. Claims 3,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohishi US, 6,940,923 in view of Ippei et al. (JP2000-138722) in further Fang US 2002/0050953

Re claim 3, the modified invention as claimed in claim 1 teaches the phase noise calculated on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction is equal to or larger than a predetermine value (col. 9 lines 44-65 and col. 10 lines 31-34, where the phase difference is greater that threshold fixed value which indicates the present of phase noise presence," Ohishi"), does not disclose indication means indicates an alarm.

However, Fang indication means indicates an alarm message when the C/N ratio differs from a predetermined amount value (para#32 lines 11-24).

Therefore, taking the combined teaching of Fang, Ohishi and Ippei as a whole would have been rendered obvious to one skilled in the art to modify Ohishi and Ippei to utilize an alarm message for the benefit of detecting change in the antenna mispointing (para#36," Fang").

Re claim 6, the modified invention as claimed in claim 5 teaches the phase noise calculated on the basis of the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction is equal to or larger than a predetermine value (col. 9 lines 44-65 and col. 10 lines 31-34, where the phase difference is greater that threshold fixed value which indicates the present of phase noise presence," Ohishi"), does not disclose indication means indicates an alarm.

However, Fang indication means indicates an alarm message when the C/N ratio differs from a predetermined amount value (para#32 lines 11-24).

Therefore, taking the combined teaching of Fang, Ohishi and Ippei as a whole would have been rendered obvious to one skilled in the art to modify Ohishi and Ippei to utilize an alarm message for the benefit of detecting change in the antenna mispointing (para#36," Fang").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rahel Guarino whose telephone number is 571-270-1198. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Payne David can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rahel Guarino/
Examiner, Art Unit 2611

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611